

What is claimed is:

1. A multi-protocol smart card system, comprising:
a user card containing a microprocessor and associated memory, and a plurality of contacts for transferring data to and from said microprocessor and memory, said contacts including a first set of contacts respectively associated with a set of signals that conform to a first protocol, and at least one other contact for controlling said microprocessor to operate in accordance with a second protocol;
and

an interface device for receiving said user card, and having:

a first set of mating contacts which correspond to the first set of contacts in said user card, to transfer said signals that conform to said first protocol,

a mode contact that corresponds to said other contact of the user card, and

a mode signal generator that provides a signal at said mode contact which causes said microprocessor to operate in accordance with said second protocol mode when the user card is received in said interface device.

2. The smart card system of claim 1, wherein said first protocol is an ISO protocol that pertains to smart cards, and said second protocol is a non-ISO protocol.

3. The smart card system of claim 2 wherein said non-ISO protocol is selected from the group comprising PS/2, USB and I2C protocols.

4. The smart card system of claim 1, wherein said microprocessor selectively operates in accordance with a plurality of non-ISO protocols in accordance with a signal provided by said mode signal generator.

5. The smart card system of claim 1, wherein said other contact of the user card is not used when said microprocessor operates in accordance with said first protocol.

6. The smart card system of claim 5, wherein said other contact is normally maintained at a predetermined logic level during operation in accordance with said first protocol, and said mode signal generator switches said other contact to a different logic level when the microprocessor is to operate in accordance with said second mode.

7. The smart card system of claim 6 wherein said different logic level is a ground reference potential.

8. The smart card system of claim 1 wherein said interface device further includes a reset signal generator for applying a reset signal to one of the contacts of the user card.

9. The smart card system of claim 8 wherein said reset signal is applied to one of the contacts of said first set of contacts.

10. The smart card system of claim 8 wherein said reset signal generator comprises an RC timing circuit.

11. In a transaction system of the type in which a user card having a microprocessor communicates with an interface device to perform a transaction, a method for selectively operating said microprocessor in one of a plurality of modes, comprising the steps of:

placing a user card in an operative relationship with an interface device so as to permit signals to be exchanged between the user card and the interface device;

providing signals to the user card from the interface device by means of a predefined set of communication contacts associated with a first operating protocol;

selectively providing a mode signal to the user card from the interface device in accordance with a mode of operation associated with the interface device;

determining within the microprocessor of the user card whether the mode signal is being provided by the interface device; and

operating said microprocessor in accordance with said first operating protocol when said mode signal is not being provided, and operating said microprocessor in accordance with a second operating protocol different from said first protocol when said mode signal is being provided.

12. The method of claim 11 wherein said mode signal is provided to the user card by means of a communication contact other than the contacts of said predefined set of contacts.

13. The method of claim 11, wherein said first protocol is an ISO protocol that pertains to smart cards, and said second protocol is a non-ISO protocol.

14. The method of claim 13, wherein said non-ISO protocol is selected from the group comprising PS/2, USB and I2C protocols.

15. A user card for a multi-protocol smart card system, comprising:
a user card containing a microprocessor that is capable of selectively operating in accordance with a plurality of different operating protocols;

a first set of contacts on said user card for communicating signals to and from said microprocessor in accordance with a first one of said operating protocols;

at least one other contact on said user card for providing a mode signal to said microprocessor; and

means associated with said microprocessor for determining whether a mode signal is provided to said other contact, and for causing said microprocessor to operate in accordance with said first protocol when a mode signal is not provided, and thereby communicate signals using only said first set of contacts, and to cause said microprocessor to operate in accordance with a second, different protocol when said mode signal is provided.

16. The user card of claim 15, wherein said first protocol is an ISO protocol that pertains to smart cards, and said second protocol is a non-ISO protocol.

17. The user card of claim 16 wherein said non-ISO protocol is selected from the group comprising PS/2, USB and I2C protocols.

18. An interface device for use in connection with a multi-protocol user card, comprising:

a first set of mating contacts which correspond to a first set of contacts in said user card that are respectively associated with a set of signals that conform to a first protocol, to transfer said signals that conform to said first protocol,

a mode contact that corresponds to another contact of the user card, and

a mode signal generator that provides a signal at said mode contact which causes a microprocessor in a user card to operate in accordance with a second protocol mode when the user card is received in said interface device.

19. The interface device of claim 18, wherein said first protocol is an ISO protocol that pertains to smart cards, and said second protocol is a non-ISO protocol.

20. The interface device of claim 19, wherein said non-ISO protocol is selected from the group comprising PS/2, USB and I2C protocols.

21. The interface device of claim 18, wherein said mode contact is normally maintained at a predetermined logic level during operation in accordance with said first protocol, and said mode signal generator switches said other contact to a different logic level when the microprocessor is to operate in accordance with said second mode.

22. The interface device of claim 21 wherein said different logic level is a ground reference potential.

23. The interface device of claim 18 wherein said interface device further includes a reset signal generator for applying a reset signal to one of the contacts of the user card.

24. The interface device of claim 23 wherein said reset signal is applied to one of the contacts of said first set of contacts.

25. The interface device of claim 23 wherein said reset signal generator comprises an RC timing circuit.

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